Remarks

Claims 1-8, 11-14, 16 and 18 currently stand rejected. Claim 11 also stands objected to for depending upon a canceled claim. Claim 17 stands objected to for depending from a rejected base claim. Claims 19-24 are allowed. Claims 9, 10 and 15 were canceled previously, and claim 11 is canceled herein; thus, claims 1-8, 12-14 and 16-24 remain pending in the application. Claims 2 and 14 are amended herein. The Assignee respectfully traverses the rejections and requests allowance of claims 1-8, 12-14 and 16-24.

Claim Amendments

Claim 2 is amended to incorporate the subject matter of dependent claim 11, which lists a number of possible interface types. Claim 14 is amended in a similar manner. As a result, claim 11 is canceled.

Objection to Claim 11

Claim 11 stands objected to for being dependent upon canceled claim 10. (Page 2 of the final Office action.) However, claim 11 is canceled herein. As a result, the Assignee asserts that the objection to claim 11 is rendered moot as a result, and respectfully requests withdrawal of the objection to claim 11.

Claim Rejections Under 35 U.S.C. § 103

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,353,819 to Edwards et al. (hereinafter "Edwards") in view of U.S. Patent No. 5,181,171 to McCormack et al. (hereinafter "McCormack"). (Page 2 of the final Office action.) Claims 2-8 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards in view of U.S. Patent No. 5,793,368 to Beer (hereinafter "Beer"). (Page 3 of the final Office action.) Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards in view of "CA Ships Database-Management Suite For E-Commerce" by Whiting. (Page 5 of the final Office action.) Claims 14, 16 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Edwards in view of Beer and U.S. Patent No. 5,933,837 to Kung (hereinafter "Kung"). (Page 6 of the final Office action.) The Assignee respectfully traverses the rejections

in light of the current amendments to claims 2 and 14, and in view of the following discussion.

Claim 1

Claim 1 provides for a *plurality* of transparent architecture layers between the first and second architecture layers which enable the first and second layers to communicate directly without having to communicate via the plurality of transparent layers.

In reference to claim 1, the final Office action indicates that "Edwards does not explicitly teach a plurality of transparent layers. However, McCormack teaches the plurality of transparent layer architecture (The layer of nodes 44 ... is referred to as a middle, or hidden, layer, col 7, ln 3-10/ links with skip hidden layer in the network, col 25, ln 46-48/ reduction of the number of links in the network 50 which is enabled by providing links 48 which skip the hidden layer of nodes, col 8, ln 64-68)." (Page 3 of the final Office action.)

The Assignee respectfully disagrees, as McCormack appears to not specifically discuss "the plurality of transparent architecture layers enabling the first architecture layer and the second architecture layer to communicate directly *without having to communicate via the plurality of transparent architecture layers*," as provided for in claim 1. In general, McCormack describes "[a]n adaptive, or neural, network ... which is particularly adapted for performing first break analysis for seismic shot records." (Abstract.) Such analysis is useful in "prospecting for underground oil and gas reservoirs." (Column 1, lines 12 and 13.) Fig. 3 shows an example of a back-propagation neural network 40 having an input layer 42 of nodes, an output layer of nodes 46, and a single middle or hidden layer of nodes 44. (Column 7, lines 3-11.) McCormack further indicates that multiple hidden layers may reside between the input layer 42 and the output layer 46. (Column 7, lines 11-14.) Fig. 4 is a diagram of a similar neural network 50 which includes links 48 which directly link input nodes 42 with output nodes 46, thus bypassing the single hidden layer 44. According to McCormack, these direct links provide a higher degree of connectivity, and thus "allow[] more rapid convergence toward the proper weighting" of input factors for each node to produce a proper output during training of the network 50. (Column 8, lines 43-60.) These direct links may "also optimize performance of network 50 for its application." (Column 8, line 61, to column 9, line 2.)

However, while McCormack mentions the possibility of more than one hidden layer, McCormack does not appear to discuss *not having to communicate* via *more than one* hidden

layer, as provided for in claim 1. For example, McCormack shows in Fig. 4 the bypassing of the hidden layer 44 by way of links 48. However, McCormack does not specifically illustrate *bypassing two* hidden layers between the input layer 42 and the output layer 46, even though more than one hidden layer may be present. Also, McCormack refers to a "hidden layer" as a layer that is not an input or output layer. (See column 7, lines 8-14.) Therefore, just because a layer is hidden is not indicative of whether communication with that layer and surrounding layers takes place, as shown explicitly in Figs. 3 and 4. Thus, the Assignee asserts that the combination of Edwards and McCormack does not teach or suggest claim 1, and such indication is respectfully requested.

The final Office action also states that "[i]t would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Edwards and McCormack because McCormack's component would improve the efficiency of Edward's systems by allowing more rapid convergence during training of the network to optimize the performance of network." (Page 3 of the final Office action.)

The Assignee respectfully disagrees with this assertion, as no motivation exists to combine Edwards and McCormack. Moreover, the teachings of Edwards and McCormack are uncombinable. Edwards teaches a multi-layered relational database manager whose data access performance is enhanced during row-retrieval operations. (Column 2, lines 48-50.) This enhancement is accomplished by way of a RAM Codegen Executor Component Layer 204 executing a subroutine "A+" therein that is capable in some cases of performing row-retrieval operations, thus allowing subsequent control to pass directly to an Input/Output Component Layer 208, thereby bypassing a Record File Manager Component Layer 206. (See Figs. 2 and 3a-3c; column 2, line 44, to column 3, line 17; column 5, lines 64-67; and column 6, line 53, to column 7, line 25.)

Thus, the system of Edwards differs from that of McCormack in significant ways, precluding a combination of the two references. First, Edwards specifically refers to a *relational database manager*, while McCormack exclusively discusses a *neural network* employed in analysis of seismic data. Such diverse systems cannot be combined on any level due to how differently the two systems operate, the data and communications involved, and the like. More specifically, all nodes of a neural network work in a similar manner by weighting a number of input values and combining them to form an output response. (Column 7, lines 33-45.) On the

other hand, Edwards employs several distinct layers of software, each handling different types of data formats and executing diverse functions to perform the overall task of accessing a database, as described above.

Secondly, whether a hidden layer of the McCormack system is skipped is determined at *training time* before actual employment of the system to perform seismic first break analysis. (Column 8, lines 43-60.) Oppositely, whether an architectural layer of Edwards is bypassed is determined during *execution* according to the specific type of database access involved. (Column 7, lines 15-25.) No "training" of the Edwards system prior to actual execution is involved.

Therefore, given these stark differences between the systems of Edwards and McCormack, combining the teachings of McCormack with Edwards is not possible. Further, even if such a combination were plausible, McCormack's system would not "improve the efficiency of Edwards' systems by allowing more rapid convergence during training of the network to optimize the performance of the network," as alleged in the Office action, as the system of Edwards does not require or benefit from training, as such training is only associated with neural networks.

Thus, in light of the above discussion, the Assignee contends that claim 1 is allowable in view of the combination of Edwards and McCormack, and such indication is respectfully requested.

Claims 2-8 and 11-13

Claim 2 incorporates a user interface attachable to the first layer object, "wherein the user interface which comprises a selected user interface *type* dynamically selectable and dynamically interchangeable from a plurality of user interface types...." (Emphasis supplied.) Further, claim 2 now indicates that the selected user interface type "comprises at least one member of a group consisting of a graphical user interface, a web enabled interface, a handheld device interface, a voice simulation interface, a voice response interface, a voice activated interface, a voice recognition interface, and an audio interface."

The final Office action alleges that Beer teaches such a user interface, specifically by way of dynamically switching between visual styles, as described at column 2, lines 10-15, and by way of multiple selectable visual styles, as presented at column 2, lines 43-46. (Page 4 of the

final Office action.)

The Assignee respectfully disagrees with the allegation. Beer only discloses switching between *visual styles* of a *single* programmable graphical user interface (GUI). (Column 2, lines 9-25.) For example, Beer specifically discusses use of Windows 95 and Motif *styles* for the GUI, which differ in terms of window appearance, toolbar buttons, radio buttons, and the like. (See Figs. 1-4; column 4, lines 10-18; and column 11, lines 10-23.) However, Beer only discusses the GUI, which is a single interface *type*, unlike the plurality of interface types of claim 2. Other possible interface types provided in the present application, as are now enumerated in amended claim 2, include a web enabled interface, a handheld device interface, voice-related interfaces, and the like.

The final Office action further indicates in response that the Windows 95 and Motif GUI styles are two different user interface types, and that support for this allegation is found in column 11, lines 6-9 of Beer. (Page 9 of the final Office action.) The Assignee respectfully disagrees. The cited section of Beer states that "[t]he following examples show that the state, the *user interface type*, and *the current visual style setting* determine how a user interface control is displayed." (Column 11, lines 6-9; emphasis supplied.) Thus, user interface types, and current visual styles, as the terms are used in Beer, represent two different constructs. According to the language employed throughout Beer, current visual style, and *not* user interface type, refers to Windows 95 and Motif. The user interface type is instead the type of interface *feature* involved, such as a radio button (see column 11, line 29) or a title bar (see column 10, line 47). Further, the current amendments to claim 2 indicate that a graphical user interface is only one of a number of user interface types. As a result, the Assignee contends that no combination of Edwards and Beer provides an architecture system involving a selected user interface type dynamically selectable and dynamically interchangeable from a plurality of user interface types, as provided for in claim 2, and such indication is respectfully requested.

More specifically regarding now canceled claim 11, the content of which has been incorporated into claim 2, the final Office action indicates that Edwards teaches various types of interfaces listed at column 1, lines 18-25, of Edwards. (Page 5 of the final office action.) The Assignee respectfully disagrees. In a text search of Edwards, Edwards does not appear to mention any of these interfaces, either at the cited location or anywhere else therewithin. Thus, the Assignee asserts that claim 2 is allowable for at least this additional reason, and such

indication is respectfully requested.

Claims 3-8, 12 and 13 depend from independent claim 2, thus incorporating the various provisions of that claim. Thus, the Assignee asserts that claims 3-8, 12 and 13 are allowable for at least the reasons provided above in support of claim 2, and such indication is respectfully requested.

Claim 11 is canceled. Thus, the Assignee contends that the rejection as it pertains to claim 11 is rendered moot, and such indication is respectfully requested.

Claims 14-18

Claim 14 indicates that the witness province is configured "to dynamically support a plurality of user interfaces, each having a different *interface type*...." (Emphasis supplied.) Also, claim 14 now sets forth a list of the possible different interface types, including a graphical user interface.

The Office action asserts that Beer teaches support of a plurality of user interfaces, each having a different interface type, by way of its visual styles. (Page 7 of the Office action.) However, as discussed above, the different visual styles are all associated with a GUI, which is a single interface type. Thus, Beer does not teach or disclose support of multiple interface types, as provided for in current claim 14. Therefore, the Assignee contends that claim 14 is allowable in view of any combination of Edwards, Kung and Beer, and such indication is respectfully requested.

Claims 16 and 18 depend from independent claim 14, thus incorporating the limitations of that claim. Therefore, the Assignee asserts that claims 16 and 18 are allowable for at least the reasons set forth above in support of claim 14, and such indication is respectfully requested.

"Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." (Page 8 of the final Office action.) The Assignee thanks the Examiner for the consideration of claim 17. However, since claim 17 depends from amended claim 14, which the Assignee believes to be allowable, the Assignee asserts that claim 17 is currently in acceptable and allowable form for the same reasons provided above with respect to claim 14, and such indication is respectfully requested.

Claim 15 is canceled. Thus, the rejections pertaining to that claim are rendered moot.

Allowed Claims

The Office action indicates that claims 19-24 are allowed. (Page 8 of the final Office action.) As a result, the patentability of those claims is not discussed further herein. The Assignee thanks the Examiner for the consideration of those claims.

Conclusion

Based on the above remarks, the Assignee submits that claims 1-8, 12-14 and 16-24 are allowable. Additional reasons in support of patentability exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 1-8, 12-14 and 16-24.

The Assignee believes no additional fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

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